



#5

SEQUENCE LISTING

<110> WOLFFE, Alan P.
COLLINGWOOD, Trevor

<120> TARGETED MODIFICATION OF CHROMATIN STRUCTURE

<130> 8325-0014 / S14-US1

<140> 09/844,508

<141> 2001-04-27

<150> 60/200,590

<151> 2000-04-28

<150> 60/228,523

<151> 2000-08-28

<160> 49

<170> PatentIn Ver. 2.0

<210> 1

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 target
site 3' to 5'

<400> 1

cccctccta

9

<210> 2

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 target
site 5' to 3'

<400> 2

ggggaggat

9

<210> 3

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 AA
sequence F1

<400> 3
Thr Thr Ser Asn Leu Arg Arg
1 5

<210> 4
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 1 AA
sequence F2

<400> 4
Arg Ser Ser Asn Leu Gln Arg
1 5

<210> 5
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 1 AA
sequence F3

<400> 5
Arg Ser Asp His Leu Ser Arg
1 5

<210> 6
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 3a target
site

<400> 6
gcggaggct

9

<210> 7
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 3a AA
sequence F1

<400> 7
Gln Ser Ser Asp Leu Gln Arg
1 5

<210> 8
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 3a AA
sequence F2

<400> 8
Arg Ser Ser Asn Leu Gln Arg
1 5

<210> 9
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg 3a AA
sequence F3

<400> 9
Arg Ser Asp Glu Leu Ser Arg
1 5

<210> 10
<211> 298
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg1
nucleotide sequence

<400> 10
ggtacccata cctggcaaga agaagcagca catctgccac atccagggct gtggtaaagt 60
ttacggcaca acctcaaata tgcgtcgtca cctgcgctgg cacaccggcg agaggccttt 120
catgtgtacc tggtoctact gtggtaaacg cttcaccgt tgcgtcaaacc tgcagcgtca 180
caagcgtacc cacaccggtg agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240
gcgtagtgac cacctgtccc gtcacatcaa gaccaccag aataagaagg gtggatcc 298

<210> 11
<211> 99
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg1 amino acid sequence

<400> 11

Val Pro Ile Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly
1 5 10 15

Cys Gly Lys Val Tyr Gly Thr Thr Ser Asn Leu Arg Arg His Leu Arg
20 25 30

Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly
35 40 45

Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His
50 55 60

Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met
65 70 75 80

Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys
85 90 95

Gly Gly Ser

<210> 12

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: duplex oligonucleotide binding target 5'-3'

<400> 12

catgcatagc ggggaggatc gccatcgat

29

<210> 13

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NLS derived SV40 large T-antigen

<400> 13

Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val
1 5 10

<210> 14

<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
double-stranded oligonucleotide encoding a FLAG
epitope

<400> 14
Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 15
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: target site
for human VEGF-A

<400> 15
ggggaggatc gcggaggct 19

<210> 16
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: linker
sequence

<400> 16
Asp Gly Gly Gly Ser
1 5

<210> 17
<211> 298
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Veg3a
nucleotide sequence

<400> 17
ggtaccata cctggcaaga agaagcagca catctgccac atccagggt gtggtaaagt 60
ttacggccag tctccgacc tgcagcgtca cctgcgctgg cacaccggcg agaggccttt 120
catgtgtacc tggctctact gtggtaaacg cttcaccgt tcgtcaaacc tacagaggca 180
caagcgtaca cacaccggtg agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240

gcgaagtgcac gagctgtcac gacatatcaa gacccaccag aacaagaagg gtggatcc 298

<210> 18

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a amino acid sequence

<400> 18

Val Pro Ile Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly
1 5 10 15

Cys Gly Lys Val Tyr Gly Gln Ser Ser Asp Leu Gln Arg His Leu Arg
20 25 30

Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly
35 40 45

Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His
50 55 60

Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met
65 70 75 80

Arg Ser Asp Glu Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys
85 90 95

Gly Gly Ser

<210> 19

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a DNA target site

<400> 19

catgcatatc gcggaggctt ggcacgat

29

<210> 20

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer SPE7

<400> 20
 gagcagaatt cggcaagaag aagcagcac 29

<210> 21
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer
 SPEamp12

<400> 21
 gtggtctaga cagctcgtca cttcgc 26

<210> 22
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer
 SPEamp13

<400> 22
 ggagccaagg ctgtggtaaa gtttacgg 28

<210> 23
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer
 SPEamp11

<400> 23
 ggagaagctt ggatcctcat tatccc 26

<210> 24
 <211> 77
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: fragment
 encoding DGGGS linker, 5' to 3'

<400> 24
 ctagacacat caaaacccac cagaacaaga aagacggcgg tggcagcggc aaaaagaaac 60
 agcacatatg tcacatc 77

<210> 25
 <211> 77

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: fragment
encoding DGGGS linker, 3' to 5'

<400> 25

tgtgtagttt tgggtggtct tggtctttct gccgccaccg tcgccgtttt tctttgtcgt 60
gtatacagtg taggttc 77

<210> 26

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer GB19

<400> 26

gccatgccgg tacccatacc tggcaagaag aagcagcac 39

<210> 27

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer GB10

<400> 27

cagatcggat ccacccttct tattctggtg ggt 33

<210> 28

<211> 589

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a/1
nucleotide sequence

<400> 28

ggtaccata cctggcaaga agaagcagca catctgccac atccagggct gtggtaaagt 60
ttacggccag tctccgacc tgcagcgtca cctgcgctgg cacaccggcg agaggccttt 120
catgtgtacc tggctctact gtggtaaacg cttcacacgt tcgtcaaacc tacagaggca 180
caagcgtaca cacacaggtg agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240
gcgaagtgac gagctgtcta gacacatcaa aaccaccag aacaagaaag acggcgggtg 300
cagcggcaaa aagaaacagc acatatgtca catccaaggc tgtggtaaag tttacggcac 360
aacctcaaat ctgcgtcgtc acctgcgctg gcacaccggc gagaggcctt tcatgtgtac 420
ctggctctac tgtggtaaac gcttcaccgg ttgcgtcaaac ctgcagcgtc acaagcgtac 480
ccacaccggt gagaagaaat ttgcttgccc ggagtgtccg aagcgcttca tgcgtagtga 540
ccacctgtcc cgtcacatca agaccacca gaataagaag ggtggatcc 589

<210> 29
 <211> 196
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Veg3a/1 amino
 acid sequence

<400> 29
 Val Pro Ile Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly
 1 5 10 15
 Cys Gly Lys Val Tyr Gly Gln Ser Ser Asp Leu Gln Arg His Leu Arg
 20 25 30
 Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly
 35 40 45
 Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His
 50 55 60
 Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met
 65 70 75 80
 Arg Ser Asp Glu Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys
 85 90 95
 Asp Gly Gly Gly Ser Gly Lys Lys Lys Gln His Ile Cys His Ile Gln
 100 105 110
 Gly Cys Gly Lys Val Tyr Gly Thr Thr Ser Asn Leu Arg Arg His Leu
 115 120 125
 Arg Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys
 130 135 140
 Gly Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr
 145 150 155 160
 His Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe
 165 170 175
 Met Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys
 180 185 190
 Lys Gly Gly Ser
 195

<210> 30
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Veg3a/1
 target site 1

<400> 30
 agcgagcggg gaggatcgcg gaggcttggg gcagccgggt ag 42

<210> 31
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Veg3a/1
 target site 2

<400> 31
 tcgccccctcc tagcgccctcc gaaccccgtc ggcccatctc gc 42

<210> 32
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: VEGF forward
 primer

<400> 32
 ctggtagcgg ggaggatcg 19

<210> 33
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: VEGF reverse
 primer

<400> 33
 gccacgacct ccgagctac 19

<210> 34
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: VEGF probe

<400> 34
 ctaccgggct gcccgaagcc tc 22

<210> 35
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: GAPDH forward primer

 <400> 35
 ccttttgcag accacagtcc a 21

 <210> 36
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: GAPDH reverse primer

 <400> 36
 gcagggatga tgttctggag a 21

 <210> 37
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: GAPDH probe

 <400> 37
 cactgccacc cagaagactg tgg 23

 <210> 38
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: ISWI primer 1

 <400> 38
 cgatcggatc ctccaaaaca gatacagctg cc 32

 <210> 39
 <211> 77
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: ISWI primer 2

<400> 39
gatcgctct agactcgaga agcttacttg tcacgtcgt ccttgtagtc gctgcccttc 60
ttcttttttt tcgagtt 77

<210> 40
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo2c target
site

<400> 40
ggtgaggagt 10

<210> 41
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo2c
recognition helix F1

<400> 41
Arg Ser Asp Asn Ala Leu Arg
1 5

<210> 42
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo2c
recognition helix F2

<400> 42
Arg Ser Asp Asn Leu Ala Arg
1 5

<210> 43
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo2c
recognition helix F3

<400> 43

Asp Ser Ser Lys Leu Ser Arg
1 5

<210> 44
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo3b target
site

<400> 44
gcggtggctc

10

<210> 45
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo3b
recognition helix F1

<400> 45
Gln Ser Ser Asp Leu Thr Arg
1 5

<210> 46
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo3b
recognition helix F2

<400> 46
Arg Ser Asp Ala Leu Ser Arg
1 5

<210> 47
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Epo3b
recognition helix F3

<400> 47

Arg Ser Asp Glu Arg Lys Arg
1 5

<210> 48
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SRC1 primer 1

<400> 48
ggatccggcc accgcggccg catggatcca tgtaatacaa acccaacc 48

<210> 49
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SRC1 primer 2

<400> 49
atgaattcgc ggccgccctg ggttccatct gcttctgttt tgag 44